

NOVAK, Jaroslav, inz.

Possibilities of increasing the productivity of rotary kilns
for magnetic roasting of sideritic ores. Sbor Vyzk ust Mnisek
4:41-52 '64.

Complete automation of rotary kiln processes. Ibid.:53-62

1. Research Institute of the Zelezorudne doly a hrudkovny
National Enterprise, Mnisek.

NOVAK, Jaroslav, 192.

Briquetting of iron ores. Entry of no. 102-111 1/2; 1/2.

1. Research Institute, Zelezne Rudy a Hutkovny, Mladá
pod Brdy.

NOVAK, Jaroslav, inz.

Technological samples for ore dressing research. Rndy 9 no.11:
375-376 N '61.

1. Vyzkumny ustav Zelezných dolu a hrudkoven, Ejovice.

(Ore dressing)

NOVAK, Jaroslav, inz.

Methods of low intensity magnetic separation. Rudy 9 no.11:377-379
N '61.

1. Vyzkumny ustav Zelezných dolu a hrudkoven, Ejpovice.

(Iron) (Magnetic separation of ores)

NOVAK, J. ^{Magician} inz.

Magnetic noncontact recorder for computation of parts from
ferromagnetic materials. Automatizace 6 no.6:150-151 Je '63.

NOVAK, Jaroslav

Heat capacity and the equation of state of solids. Pts.1-3.
Sbor VŠET Pardubice no.1:61-102 '64.

1. Vychodoceske chemicke zavody Synthesia National Enterprise,
Semtin u Pardubic. Submitted June 18, 1963.

NOVAK, J

SORM, F.; NOVAK, J.; HEROUT, V.

On terpenes. Part 51. The composition of chamazulene; preliminary communication [in English with summary in Russian]. Sbor. Chekh. khim. rab. 18 no. 4: 527-529 Ag '53. (MLRA 7:6)

1. Department of Natural Products, Institute of Organic Chemistry, Czechoslovak Academy of Science, Prague.
(Chamazulene)

NOVAK, J.

SUPA, F.: NOVAK, J.; MURAI, T.

"Terpenes. Pt. 51. The Composition of Chamaecyparadiene; A Preliminary Communication.
p. 1977. (Chemische Listy. Vol. 47, No. 7, July 1955, Praha.)

See: Monthly List of New European Chemicals, 1955-1956, p. 1977.

CZECH

Terpenes. LXIII. Total synthesis of chamazulene. A
simple general synthesis of 1,4,7-substituted azulenes.
Jiří Novák, Právník Šorm, and Jiří Šícher (Czech. Akad.
Sci. Prague). Chem. Listy 48, 1848-53 (1954) [in English];
Collection Czechoslov. Chem. Commun. 19, 1264-73 (1954) [in English];
cf. C.A. 49, 9084c. — A general synthesis of 1,4,7-trialkyl-
azulenes has been worked out based on the hydrogenation
of a suitably substituted α -dihydroxybenzosuberene to the
said diol, oxidation of the diol to the corresponding di-
carboxylic acid, and cyclization to the desired azulene
skeleton. Chamazulene was synthesized in this way.
2,3-(MeO)₂C₆H₃COCl and Pr₂Cd gave 72% 2,3-(MeO)₂C₆H₃-
COPr (I), b.p. 104°; semicarbazone, m. 154.5° (from MeOH).
Refluxing 120 g. I, 61 g. Me₃NH₂·HCl, 35 g. (CH₃O)₂, and
2.5 ml. concd. HCl in 450 ml. EtOH 4 hrs. with efficient
stirring, adding 10 g. (CH₃O)₂, refluxing 8 more hrs., distg.
off most of the EtOH, stirring the cryst. residue several
times with Et₂O, dissolving the crystals in H₂O, liberating
the bases with 400 ml. 10% NaOH, extg. the mixt. with
Et₂O, concg. the ext. in vacuo to 80 ml., and treating the
concentrate with dry HCl gave 66 g. 2,3-(MeO)₂C₆H₃CO-
CH₂CH₂NMe₂·HCl (II), m. 141° (from EtOH), and 66 g.
recovered I. Treating 21.5 g. II in 60 ml. H₂O with 40 ml.
10% NaOH, extg. the liberated base with Et₂O, adding with
cooling 20 g. MeI, evapg. the excess MeI and Et₂O in vacuo,
stirring the crystals with 100 ml. EtOH, treating the mixt.
with NaCH₃CO₂·Et₂O, preppt. from 2.2 g. Na and 15 g.
CH₃CO₂Et₂O in 100 ml. EtOH, refluxing the mixt. until
no more Me₂N escaped (8 hrs.), distg. off the EtOH, dis-
solving the NaI in H₂O, refluxing the crude diester 2,3-
(MeO)₂C₆H₃COCH₂CH₂CH₂CO₂Et₂ with 40 ml. 10%
NaOH 2 hrs., acidifying the mixt., decarboxylating the free
acid by heating 20 min. at 170°, and distg. the crude acid
in vacuo gave 15.6 g. 2,3-(MeO)₂C₆H₃COCH₂CH₂CH₂-
CH₂ (III), b.p. 190°. Hydrogenation of 23.5 g. III in
200 ml. AcOH over 3 g. 5% Pt/C at 80-90° gave 50 g. of
2,3-(MeO)₂C₆H₃CH₂CH₂CH₂CO₂Et₂ (IV), b.p. 181°
giving 23 g. IV by heating the oil at 100° with 75% ethyl

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NOVAK, J.

✓ Kovář, J., and Novák, J.: Preparative Reactions in
Organic Chemistry. III. Nitration, Nitrosation, and
Sulfonation. Prague: Nakl. Českosl. akad. věd. 1958.
672 pp. Reviewed in *Chem. listy* 50, 1856 (1956).
Bibliography on Ethylene Imine Chemistry. Washing-
ton: Chemierad Corp. 1958. 68 pp. \$2.

NOVAK, JIRI

CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 14358.

Author : Novak Jiri, Ratusky Josef, Sneberk Vladimir, Sorm Frantisek.

Inst :

Title : Reactions of Diazoketones. I. Interaction of Diazoacetone with Unsaturated Compounds.

Orig Pub: Chem. listy, 1957, 51, No 3, 479-492; Sb. chekhosl. khim. rabot, 1957, 22, No 6, 1836-1851.

Abstract: Diazoketones [diazoacetone (I)] react with unsaturated compounds to form derivatives of acetyl cyclopropane. Reaction with aromatic compounds RH results in ketones RCH_2COCH_3 (II); C_6H_6 reacts only in the presence of BF_3 ; the yield of phenylacetone is 4%. Vinyl esters and ethers usually yield a mixture of cyclopropane derivatives and ketones II. Acrylonitrile forms with I (1 hour, 100° . addition of Cu) a compound

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Organic Chemistry.

G-2

CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 14358.

only the acetate of 7-acetyl-bicyclo-[4,1,0]-heptanol-1, yield 12%, BP 72-76°/0.3 mm; SC, MP 184°. In the same manner from dihydropyran was obtained only 7-acetyl-2-oxabicyclo-[4,1,0]-heptane (IV), yield 54%, BP 80-83°/10 mm; MP 144. IV was obtained also from the acid chloride of 2-oxabicyclo-[4,1,0]-heptane-7-carboxylic acid, MP 89-93°/15 mm (V--acid) and $(CH_3)_2Cd$ in C_6H_6 , yield 68%. V was obtained from dihydropyran and $H_2CHCOOC_2H_5$ with subsequent saponification with NaOH, yield 86%, MP 104°. Indole reacts with I in cyclohexane with addition of Cu at 80°; by distillation of the mixture and chromatographic purification is isolated, with a yield of 25%, 3-indolyl-acetone (MP 116.5-118.5°; picrate, MP 116-117°), which is reduced with $LiAlH_4$ to 1-(3-indolyl)-propanol-2, yield 89%, BP 146-147°/0.35 mm, MP 37.5°. Coumarone and $CuSO_4$ give with I at 80° 6-acetyl-2-oxa-3,4-benzobicyclo-[3,1,0]-hexene-3, MP 63°, which is converted with NaOBr in aqueous dioxane to 2-oxa-3,4-benzobicyclo-

Card : 4/5

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2
NOVAK J. R.

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77633.

Author : Novak, J. and Sorm, F.

Inst : Not given.

Title : Reactions of Diazoketones. III. The Reaction of
Diazoacetone with Furan and With Its Homologs.
A New Simple Synthesis of Octa-3,5-diene-2,7-dione.

Orig Pub: Chem Listy, 51, No 9, 1693-1698 (1957) (in Czech).

Abstract: In the course of their investigation of the feasibility of the utilization of diazoacetone (I) in the synthesis of other compounds, the authors have reacted I with furan (II) and with its homologs using 1 : 1 mol ratios. The reaction is accompanied by the evolution of N_2 and the opening of the ring of II. With II, 2, 4-heptadiene-6-one-al

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Novak J. R. 26
Spec. no. 2, Prague

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77633.

Abstract: (III) is formed, while sylvan (IIa) gives 3,5-octadiene-2, 7-dione (IV) and 2,5-dimethylfuran (IIb) forms 4-methyl-3,5-octadiene-2,7-dione (V). The reaction apparently proceeds via the intermediate formation of 2-oxa-6,1,3-dicyclo-3-hexene. I and II are heated with Cu-powder in an autoclave (15 min, 90°); III is separated from the fraction boiling at 70-90°/0.4mm, yield 43%, mp 42°; the same fraction yields bis-dinitrophenylhydrazone, mp 207° (from CH₃ NO₂); bis-semicarbazone, mp 187°. When III is refluxed for 3 hrs with an aqueous solution of K₃ Fe(CN)₆ and CH₃ COOK, 1,3-hexadiene-5-one-1-carboxylic acid (VI) is obtained, yield 52%, mp 145° (from water), which under the action

Card 2/4

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77633.

Abstract: of NaBrO in the cold gives trans, trans-muconic acid (VII), yield 70%, mp 303° (from water). VII is also obtained by the direct oxidation of III with NaBrO. The Hydrogenation of III over PtO₂ in alcohol gives 6-heptanone-1-al, bp 98-102°/15mm; hydrogenation over Raney Ni (120 atm) gives 1,6-heptanediol, bp 80°/0.3mm. The reaction of I with IIa is carried out by adding the mixture of reactants to a boiling suspension of Cu in IIa; the yield of IV is 39%, mp 127° (from CH₃OH). V is obtained by a similar procedure from I and IIb, yield 38%, bp 93-96°/0.3mm, mp 38°. The ethyl ester of diazoacetic acid under similar conditions

Card 3/4

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77633.

Abstract: likewise cleaves the furan ring of IIa to form the ethyl ester of VI, bp 105-115°/12mm; semi-carbazone mp 162° (from alc). For Communication II see RZhKhim, 1958, 50339. -- J. Kovar.

Card 4/4

Novak, J.

CZECHOSLOVAKIA/Organic Chemistry. Organic Synthesis. G-2

Abs Jour : Ref Zhur-Khimiya, No 9, 1959, 31331

Author : Novak, J., Sorm, F.

Inst : -

Title : Reactions of Diazoketones. III. Interaction of Diazacetone with Furan and Its Homologues. New Simple Synthesis of Octa-3,5-Dienedione-2.7.

Orig Pub : Collect. czechosl. chem. commun., 1958, 23, No 6, 1126-1132

Abstract : See Ref Zhur-Khimiya, 1958, 77633.

Card : 1/1

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ADAMEK, Milan; NOVAK, Jiri

New linear polyesters on the basis of diphenyl
sulfone-4,4'-dicarboxylic acid. Sbor VŠChT Pardubice
no.1:97-112 '63.

1. Chair of Plastics, Higher School of Chemical Technology,
Pardubice.

NOVAK, Jiri

Contribution to the new chemical orthography and the question of
spelling foreign words. Chem listy 59 no.3:355-356 M. '65.

117 AND 120 TROUS
PROCESSES AND PROPERTIES

7

Calcite crystals from the coal basin of Rosice-Oslavany
in Moravia. Jiri Novak. *Spolny kominer* per. vrbum
Morav. *Novak*, No. 310011, *Nov. geol.* 10.
1.01 Crystallography

ASB 51.6 METALLURGICAL LITERATURE CLASSIFICATION

117 AND 120 TROUS

Cristobalite from serpentines of west Mexico. Jiti Novák. *Spisy vydané Přírodovědeckou fakulou Masarykovy Univ. v Brně*, No. 159, 18(1952); Chem. Abstr. 6, Abstract sect. 105.—On x-ray diffraction examn. "lonsdaleite" gave the characteristic lines for cristobalite J. K.

1ST AND 2ND COLUMNS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH COLUMNS

8

CA

Variability of the unit cell of quartz. Jiri Nývlt
(Charles Univ., Prague). *Věstník Stát. Geol. Ústavu*
Rep. Českoslov. 21, 231-0 (in French, 235-6) (1946). -
Kolaczowska (C.A. 32, 4470) reported different cell
constants for quartz and chalcedony. X-ray powder
photographs of chalcedony, quartz of igneous origin, and
quartz of eq. origin are identical, and give $a_0 = 4.983 \text{ \AA}$
 $0.102 \text{ \AA}$, $c_0 = 5.393 \text{ \AA}$ $0.012 \text{ \AA}$. Michael Fleischer

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1171. ON THE VARIABILITY OF THE CRYSTAL LATTICE OF QUARTZ.
—J. Novak (Coll. Czech. Chem. Comm., 12, 193, 1947). Contrary to the experi-
mental results of Kolaczowska, who found different values for the lattice of chal-
cedony, of quartz of hydrothermal origin, and of quartz from a granite, the present
author ascertained by the method of powder photographs that mixtures of quartz
specimens of various origin all give the same lattice, viz. $a_0 = 4.903 \pm 0.002 \text{ \AA}$;
 $c_0 = 5.393 \pm 0.002 \text{ \AA}$.

Charles Ulmer

NOVAK, JIRI.

Strukturni krystalografie; uvod do studia atomove stavby
hmoty. [1. vyd.] Praha, Prirodovedecke vydavatelstvi, 1953.
208 p. [Structural crystallography; an introduction to the
study of the atomic structure of matter. 1st ed. illus., bibl.,
index, notes, tables/

SOURCE: East European Accessions List (EEAL) Library of Congress.
Vol. 5, No. 1, January, 1956

NOVAK, J.

"Occurrence of Magnetite in the Erzkono (Riesengebirge) Mountains." p.5.
(Rudy, Vol.1, No.1, Feb. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol.3, No.3, Library of Congress, March 1954,
Uncl.

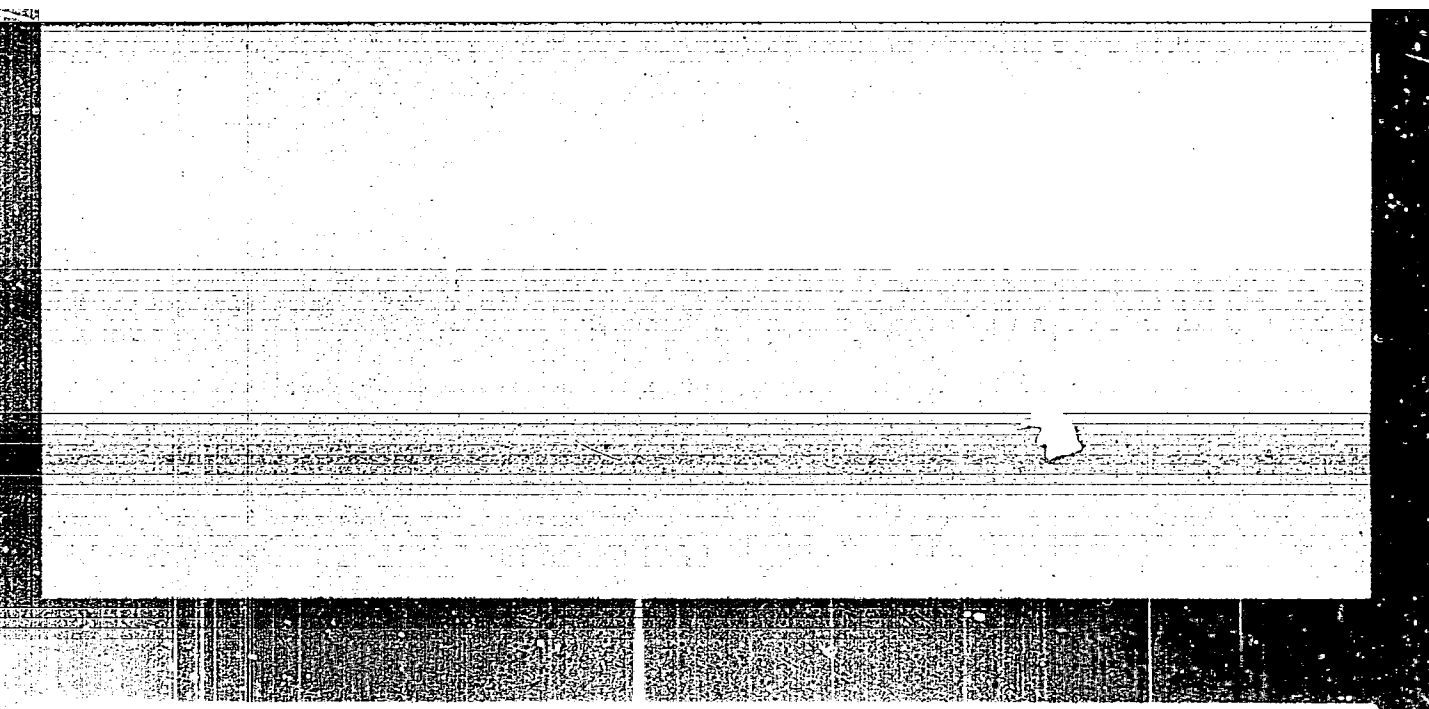
NOVAK, J.

"Metallogeny of the Caslav Area in Bohemia." p 121.
(Rudy, Vol.1, No.8, Oct. 1953, Praha.)

See: Monthly List of Most Recent Publications, Library of Congress, Washington, D.C., 1953.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001137410011-2



APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001137410011-2"

NOVAK, J.

CZECHOSLOVAKIA

AUTHORS: Lisek, A. and Novak, J.
 TITLE: Meeting of the Czechoslovakian National Committee of the International Union of Crystallography (2 porady Čes. křesťanského národního komitatu krystalografického únie)
 PERIODICAL: Československý časopis pro fyziku, 1958, Nr 6, pp 745 - 746 (Czech)

ABSTRACT: The Presidium of the Czechoslovakian Ac.Sc. has approved the proposal of its second section to establish a National Committee with Prof. Dr. J. Novak as chairman, Dr. A. Lisek as secretary and Dr. Ing. F. Hanic, Candidate of Chemical Sciences, Prof. Dr. J. Káňar, Dr. A. Čechovská, Doctor of Physico-mathematical Sciences, Prof. Dr. J. Sekanina, Corresponding Member of the Czech Ac.Sc., as members. At its meeting held on March 14, 1958, it decided to co-operate in the publication of the Czech Ac.Sc. under the chairmanship of Prof. Dr. J. Novak, it was decided to publish as a joint effort of the Czechoslovakian and the USSR, East Germany, Poland and Czechoslovakia and is to contain practical information on crystallography, analysis and to give in the form of tables and possibly, graphs all the data required in practice for solving most problems of structural crystallography.

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Dr. V. Šynáček (Institute of Technical Physics of the Czech Ac.Sc.) was entrusted with this work. The National Committee has recommended participation in the efforts of Prof. R. Pepinsky (Pennsylvania State University) in the publishing of an encyclopedic collection of all substances physical, chemical and information of such data is of so far investigation. Collection of such data is of fundamental importance from the point of view of solving problems of physics of the solid phase, mineralogy, chemistry and other branches of science. For this purpose, it was proposed to form in Czechoslovakia a working team of crystallographers who could offer Prof. Pepinsky information published in the Czechoslovakian literature; morphological and physical crystallographical data; supplementary X-ray data; calculation of electron densities of the electron densities. As regards participation of Czechoslovakian crystallographers in the fifth meeting of the International Crystallographic Union to be held in London in 1960, it is recommended that Czechoslovakian

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work should be presented in the form of a symposium or that a foreign-language issue of one of the journals of the Czechoslovakian Ac.Sc. should be devoted to this purpose.

ASSOCIATIONS: Ústav technické fyziky ČSAV, Praha (Institute of Technical Physics of the Czech Ac.Sc., Prague)
 Katedra geologicko-mineralogické fakulty, K. Práha (Chair of the Geological-mineralogical Faculty of Charles University, Prague)

SUBMITTED: May 2, 1958

Card 3/3

NOVAK, Jiri
Given Names

Country: Czechoslovakia

Academic Degrees: /not given/

Affiliation: /not given/

Source: Prague, Casopis pro Mineralogii a Geologii, Vol VI, No 2, 1961,
pp 221-222.

Data: "Fifth International Crystallographic Congress in Cambridge,
England."

Authors: NOVAK, Jiri

BOUSKA, Vladimir

SLANSKY, Ervin

GPO 981603

NOVAK, Jiri
SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: /not given/

Affiliation: /not given/

Source: Prague, Casopis pro Mineralogii a Geologii, Vol VI, No 3, 1961,
pp 333-335.

Data: "Properties of Goesite and Its First Find in Nature."

Authors:

NOVAK, Jiri

ROST, Rudolf

GPO 981643

NOVAK, Jiri; TEBEL, A., Adenek

Discovery of deformed pyrite crystals in the Mlnik deposit,
near Hnusta. Cas min geol 9 no. 1:103-104 '64.

1. Prirodovedecka fakulta Karlovy university; Ustav nerostnych
surovin, Kutna Hora.

NOVAK, Jiri K.

Indebted' opinion on the affinity of elements to oxygen and sulfur. *Cas m'ín geol* 9 no. 11:111-113 1944.

1. Přírodovědecká fakulta Masarykovy university.

L 43924-66

ACC NR: AP6005490

(A) SOURCE CODE: 02/0078/66/000/001/001/001

41

INVENTOR: Novak, Jiri (engineer) (Prague)

3

ORG: none

TITLE: [Electrometric circuit with a nonlinear dielectric element] Patent No. 77
7120-64, Class. 215

SOURCE: Vynalezky, no. 1, 1966, 12

TOPIC TAGS: electrometer, electrometry, dielectric capacitor, phase detector

ABSTRACT: An electrometric circuit is described which has a nonlinear dielectric filter to the input clamps which consists of a high frequency generator whose output is connected to a capacitor with a nonlinear dielectric element. The distinguishing feature of this circuit is that it is designed to superpose a high frequency voltage of a proportional current on a duct capacitor with a nonlinear dielectric element with an ac voltage of the same frequency from a high frequency generator. A phase circuit and a differential rectifier for estimating the difference between the positive and negative amplitudes of the course of the superposed high frequency voltage constitute this design feature.

SUB CODE: 09/ SUBM DATE: 16Dec64

Cord 1/1 *22/11*

NOVAK, Jiri, inz.

Vibrated large panels from CDK triple bricks. Poz stavby 11
no.7:377-380 '63.

1. Pozemni stavby Pardubice.

NOV 1961

Experience in : pneumatic loading. Vocal group 4 no. 3:288 1961.

SCHUBERT, J.; NOVAK, J.

Conservative treatment of fetal erythroblastosis. Cas. lek. cesk.
91 no.3:72-77 18 Jan 52.

1. Gynekologické, oddelení st. obl. nemocnice v Motole.

Prednosta: Doc. dr. V. Sebek. Laborator pro stanovení vlastností
krvničních při interním oddelení St. obl. nemocnice v Motole.

Prednosta: Prof. dr. V. Jonas.

(ERYTHROBLASTOSIS, FETAL, therapy
conservative, indic.)

NOVAK, Josef, MUDr.

Lumbo-sciatic syndrom and accidents. Prakt. lek., Praha 34 no.22:
502-507 20 Nov 54.

1. Z chirurg. klin. základny Ustavu pro doskolování lékařů při obv.
nemocnice v Praze 8 - Bulovka; přednosta prof. Dr. Jan Knobloch

(WOUNDS AND INJURIES

trauma in etiol. of lumbo-sciatic synd.)

(BACKACHE

lumbo-sciatic synd. caused by trauma)

(SCIATICA

lumbo-sciatic synd. caused by trauma)

NOVAK, Josef, MUDr

Surgical intervention in hemophilics. Rozhl.chir. 34 no.9:570-572
Nov 55.

1. Z chirurgické klinické základny Ústavu pro doskolování lékařů
při obvodní nemocnici v Praze 8-Bulovka (Prednosta: profesor MUDr
Jan Knobloch)

(HEMOPHILIA, surgery,
(Cz))

NOVAK, Josef

Prognosis for ileus caused by gallstones. Cas. lek. cesk. 95
no.46:1281-1284 16 Nov 56.

1. Chirurgická klinická základna Ústavu pro doskolování lékařů
při obv. nemocnici v Praze 8-Bulovka. Přednosta: profesor MUDr.
Jan Knobloch.

(CHOLELITHIASIS, compl.

intestinal obstruct., surg. progn. (Cz))

(INTESTINAL OBSTRUCTION, etiol. & pathogen.

cholelithiasis, surg. progn. (Cz))

NOVAK, Josef

Antibiotics in the treatment of appendiceal infiltrates. Rozhl.
chir. 38 no.7:468-474 July 59

1. Chirurgická klinická základna Ústava pro dosklování lékařů v
Praze 8 - Bulovka, přednosta prof. dr. Jan Knobloch.
(ANTIBIOTICS, ther.) (APPENDIX, dis.)

NOVAK, J.; LOMSKY, J.; KUBAT, B.

Our experience with the diagnosis of acute gastrointestinal hemorrhage.
Gas. lek. cesk. 99 no.28:881-886 8 JI '60.

1. Chirurgická klinická základna Ústavu pro doskolování lékařů v
Praze 8-Bulovka, přednosta prof. Dr. Sc. MUDr. Jan Knobloch. Chirurgické
oddělení OUNZ Český Brod, primář MUDr. J. Lomský.
(HEMORRHAGE GASTROINTESTINAL diag)

NOVAR, Josef

TECHNOLOGY

Periodical AUTOMOBILE. Vol. 2, no. 12, 1958.

NOVAR, J. Developmental trends in the electric equipment of motor vehicles. p. 124.

Monthly List of East European Accessions (REAE) 10, Vol. 8, no. 3, March, 1959. Incl.

SOUSTEK, Milos; HOVAK, Josef

Experience with using pallets in railway transportation
services. Zel dop tech 10 no.4:112-113 '62.

NOVAK, Josef

Accessories of motor vehicles. Tech praca 14 no.6:485-490
Je 62.

1. Prislusenstvi motorovych vozidel, sdruzeni narodnich podniku,
Praha.

KLIKA, Otakar, prof, inz.; NOVAK, Josef, inz.

A small linear analyzer for solving transport problems. Slaboprouty
obzor 23 no.9:500-504 S '62.

1. Ceske vysoke ueni technicke, Praha.

NOVAK, Josef, inz., C.Sc.

Increasing technical and organizational standards in handling materials up to 1970. Tech prace 15 no.4:249-253 Al '63.

1. Statni komise pro rozvoj a koordinaci vedy a techniky, Praha; predseda komise pro manipulaci s materialem pri Ustredni rade Ceskoslovenska vedecko-technicka spolecnost.

NOVAK, Josef, inz. CSc.

Handling of materials is the main source of reserves up to 1970. Tech praca 17 no.2:81-83 F '65.

1. State Commission for the Development and Coordination of Science and Technology, Prague.

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Inorganic Substances.

E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57187.

Author : Dolezhal J., Novak *J. J. J.*

Inst : Not given.

Title : Use of Aminocompounds in the Polarography of In-
organic Substances. VI. Determination of Cobalt
in Steel and Ores.

Orig Pub: Chem. listy, 1957, 51, No 10, 1798-1803.

Abstract: Based on the results of polarographic behaviour
of Co in the alkaline solutions of ethylenediamine,
a determination method for Co in the presence of
considerable quantities of Fe, Al, Cr, Mn, Ni, Zn,
V, Mo, and W has been developed. Large quantities
of Ag, Tl and Cu interfere with the determination
since the reduction proceeds at higher potentials

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CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Inorganic Substances.

E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57187.

Abstract: than that of Co (-0.7 volts in a solution, 1 M
basis ethylenediamine and 1 M basis KOH; -56 volts
in a solution, 1 M basis ethylenediamine and 1 M
basis NH_4OH). Pb also interferes since its wave
merges with that of Co. In the above stated media
and at high concentrations of Fe, Cr, Mn, Al, Zn,
and V, it forms precipitates which adsorb the com-
plex of $\text{Co}(3+)$. With the decreased concentration
of ethylenediamine, the adsorption increases, but
with the increased concentration of Co and at
equal concentration of Fe, it decreases. By em-
ploying a method of standard dosages added, it is

Card 2/5

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Inorganic Substances.

E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57187.

Abstract: possible to determine Co in the presence of Fe for the ratios of Co: (Fe, Mn, Zn) = 1:1000, Co : Ni = 1 : 100, Co : V = 1 : 10. In the determination of Co in steel, a 0.1gr sample is dissolved in 7cc of 20% H_2SO_4 or any other suitable acid. The obtained solution is then reduced in volume by a factor of 2 by means of heating with 4cc of concentrated H_2SO_4 . After cooling, 3cc of 20% H_2SO_4 is added to the dry residue, followed by the addition of the KOH solution until pH of the total solution becomes approximately 2.0. The solution is then diluted to 100cc. 12.5cc of freshly prepared ethylenediamine (2 M basis ethylenediamine, and 2 M basis KOH) is added to a 10cc portion of the above solution. The mixture is then thoroughly mixed,

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CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Inorganic Substances.

E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57187.

Abstract: heated to a required temperature, diluted with water to 25cc, centrifuged (or retained standing until the precipitate settles), and the transparent solution is subjected to polarographic determination after the removal of oxygen by means of bubbling with N_2 . In the determination of Co from raw minerals, 1gr sample is dissolved in 10cc aqua-regia, evaporated to dryness, followed by two evaporations using 10cc of concentrated HCl each time. 10cc of concentrated HCl is then added to the dry residue and, after reaching a required pH, the solution containing suspended undissolved material,

Card 4/5

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Inorganic Substances.

E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57187.

Abstract: is diluted to 100cc with water, followed by the performance of a test as described above. If the analyzed sample contains large quantities of Pb and Cu, they should be removed beforehand. For Part V refer to Ref Zhur-Khimiya, 1958, 32166.

Card 5/5

11/19/81, J

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Organic Substances.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67335

Author : Janak J., Novak J.

Inst : Not given.

Title : Chromatographic Semi-micro Analysis of Gases. XIV.
Direct Determination of Individual Gaseous Paraffines and Olephines in 1, 3-Butadiene.

Orig Pub: Chem. listy, 1957, 51, No 10, 1832-1837.

Abstract: Chromatographic method capable of handling mixture of liquid and vapor hydrocarbons was developed for determining contaminants present in commercial butadiene (I). This method employs apparatus in

Card 1/3

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Organic Substances.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67335.

Abstract: the form described previously (Ref. Zhur-Khimiya, 1954, 18572) with the following modifications: ahead of the chromatographic column an additional column is installed. It is filled with kieselguhr impregnated with maleic anhydride. Butadiene is adsorbed in this column at a temperature of 100-110°. Contaminants that dissolve partially in maleic anhydride are subjected to the preliminary separation. The final separation occurs at room temperature in the main column which is filled with "aluzyl" (sodium aluminum silicate) impregnated with 20% dimethylformamide. CO₂ is used as carrier gas. Chromatographical spectra of the gaseous hydrocarbons are obtained from the main column effluents. These gases constitute contamin-

Card 2/3

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of
Organic Substances.

Abs Jour: Ref Zhur-Khimiya, 1958, No 20, 67335

Abstract: ants of commercial butadiene and consists of ethylene, propane, propylene, isobutane, n-butane n-and-iso-butylenes, trans-butylene, cis-butylene, iso-pentane, and n-pentane. The obtained spectra not only detect the presence of each component, but also determine its quantity thus enabling to determine purity of I, which is also analyzed in the same apparatus. Each determination requires 5-50cc of gas. Duration of each determination is approx. 30 minutes. Error encountered in the determinations of each individual component is less than 0.02% (absolute). For Part XIII refer to Ref. Zhur-Khimiya, 1958, 32195.

Card 3/3

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77339.

Author : Dolezal, Jan; Novak, Josef.

Inst :

Title : Rapid Methods of Analysis of Metals and Mineral Raw Materials. V. Polarographic Determination of Copper and Bismuth in Mineral Raw Materials and Iron.

Orig Pub: Chem. listy, 1958, 52, No 1, 36-39.

Abstract: Copper can be determined in the presence of Fe^{3+} after the reduction of Fe^{3+} with hypophosphorous acid. The reduction of Fe^{3+} in the medium of 8 M HCl proceeds very slowly even at low concentrations of Fe^{3+} , and in the medium of 2 M HCl, it proceeds consider-

Card : 1/4

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khin., No 23, 1958, 77339.

ably more rapidly even in the case of higher Fe concentrations. In the presence of 10^{-4} M Hg $(NO_3)_2$, Fe^{3+} in 0.5 M $FeCl_3$ is reduced after 3 min. of boiling of the solution. $5 \cdot 10^{-4}$ M of Cu in the presence of a 10,000-fold amount of Fe can be determined by the second wave of Cu ($Cu^{+} \rightarrow Cu$) prepared separately after the reduction in the medium of 2 M of HCl and 0.1 M of NaH_2PO_4 . Bi and Pb can be also simultaneously determined, if their concentrations are approximately the same as that of Cu. Mo and Ti interfere with the determination of Cu, but As does not. The described method was applied to the

Card : 2/4

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77339.

determination of Cu in ores. 1.5 g of a finely pulverized sample is dissolved in 5 ml of concentrated HCl and 1 ml of concentrated HNO₃, it is evaporated twice with 2 ml of concentrated HCl, heated 10 min. with 20 ml of water and 2 ml of concentrated HCl in a water bath, cooled, and the solution together with the precipitate is diluted with water to 100 ml. 2 aliquot portions (10 ml each) of the prepared solution are poured into measuring flasks of 25 ml capacity, and a standard addition of Cu is added into one of them. After that, 5 mg of 10 n. HCl, 3 ml of 5 M NaH₂PO₄ and 0.1 ml of 0.1 n. Hg(NO₃)₂ are added into each flask, the flasks are boiled 3 min. until the solu-

Card : 3/4

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic
Substances.

E

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77339.

tion becomes colorless, they are cooled, 2.5 ml
of 1% gelatin solution is added to each, the
contents are diluted to the mark and, after having
the solutions bubbled with nitrogen, they are
polarographed. See RZhKhim, 1958, 57166 for
report IV. - Petr Zurnn.

Card : 4/4

CZECHOSLOVAKIA/Physical Chemistry. Electrochemistry.

D

Abs Jour: Ref Zhur-Khin., No 5, 1959, 14797.

Author : Dolezel J., Nevala J.

Inst :

Title : Polarographic Behavior of Trivalent and Tetravalent Cerium.

Orig Pub: Chem. listy, 1958, 52, No 4, 582-588.

Abstract: A clear reversible reducing-oxidizing wave of the $Ce(4+) + e \rightleftharpoons Ce(3+)$ system is observed in solutions of alkaline carbonates of Ce, at pH 9 - 11.5. At carbonate concentrations < 0.75 M at pH < 8.7 or at pH > 12.7 , the wave height decreases and a precipitate is formed. In 1.0 M K_2CO_3 $E_{1/2} = -0.114$ volts and in 2.0 M K_2CO_3 $E_{1/2} = -0.158$ volts (satur. K.F.),

Card : 1/2

Distr: 1L2c

7

Use of amines in inorganic polarography. VII. Polarographic determination of copper and iron in nickel and aluminum and their salts. Jan Dolcál and Josef Novák (Karlova Univ. Prague). *Chem. listy* 52, 1353-1355, 1958. cf. *C.A.B.* 52, 2044b. Simultaneous detn. of Co and Fe was possible in a supporting electrolyte consisting of 0.8M ethylenediaminetartrate and 0.08M K₂P₂O₇. In this soln. the waves of Fe and Cu are well sepd. P. Stránský

7
1
y-y JH

NOVAK

Authors: D. Štehlík and J. Novák, J.

Rapid Analytical Method for Metals and Inorganic Raw

Material. (Rychlá metoda v analýze kovů a neorganického

Material. (Rychlá metoda v analýze kovů a neorganického suroviny) VII. Polarographic Determination of Cerium in Alloys and Inorganic Matter (VII. Polarografická stanovení ceria ve slitinách a neorganické surovinách)

Periodical: Czechoslovakia

Československá, 1986, Vol. 52, No. 11, pp. 2060 - 2065

Abstract:

The continuously increasing demand for cerium (Ce) as a component for the most diverse alloys has led to the investigation of its problem of rapid and direct determination in a wide range of concentrations as well as in trace amounts, side by side with a whole series of other elements in the analyzed material. The growth in the uses of Ce is also linked with new sources of raw material and its testing requires more rapid and sufficiently accurate analytical laboratory methods.

So far, Ce has been determined by measurement (Ref. 1) by weight (Ref. 2) and by colorimetric methods (Ref. 3). Polarographic methods have hardly ever been used because the reduction of the Ce ions in the proposed electrolytes becomes apparent either as an increase in current from the zero line of the galvanometer (Refs. 4-6) which is difficult to measure accurately, or as a cathodic potential (Ref. 7). This is usually preceded by depolarization of a whole series of Ce elements which then interfere with its polarographic determinations.

One of the previous communications (Ref. 8) gives a detailed account of the polarographic behaviour of Ce of 3 or 4 valencies in alkaline carbonate solutions. The experience gained in this work was used for the rapid determination of Ce beside a number of elements and also rare earths in different material, for instance, incandescent mantles, alloys, residues after Ce electrolysis, in Ce containing alloys and in magnetic sand.

The apparatus and reagents used for the analytic determination of Ce are described in the introduction of the previous communication (Chemistry, 1985, Vol. 52, p. 2010).

The chemicals used and their preparation were identical. The polarographic determination of Ce is carried out in solutions in which it is present after analytical decomposition in a 2 M solution of K_2CO_3 . The anodic wave occurring in the determination of Ce in these solutions is an inert atmosphere, the wave being due to carbonate complex $[\text{Ce}(\text{CO})_3]^{2+}$. Its amplitude in greater than 1 M K_2CO_3 solution is a linear function of its concentration within range $5 \cdot 10^{-5}$ M to 10^{-4} M Ce^{3+} .

However, the majority of the ions are precipitated in this environment and thus affect Ce determination firstly by absorption and also by giving a reduction- or oxidation wave (owing to the high solubility values of the products as carbonates).

Table 1 gives the half-wave potentials of various ions in a 2 M solution of K_2CO_3 . A further disadvantage of using the pure carbonate as electrolyte is the variable pH and carbonate concentration when the sample contains a fair amount of mineral acids. This would also affect the amplitude and shape of the wave (Ref. 9). Preliminary experiments were made with strongly acidic analytical solutions, with carbonate buffers and also with indicator dyes. In all cases, unaccountable errors were obtained and therefore these methods were rejected. A 0.5 M solution of completion III was experimentally tried and was a failure. Other agents tested were Na_2CO_3 , NaHCO_3 , $\text{Na}_2\text{C}_2\text{O}_4$, Na_2SO_4 , $\text{Na}_2\text{C}_2\text{O}_4$. A basal solution consisting of 2 M K_2CO_3 and 0.1 - 1 M sodium-potassium tartrate gives a well measurable anodic wave of the Ce^{3+} oxide of the carbonate complex while Ce^{4+} reduction gives a cathodic wave of diffuse character. Its amplitude has a linear dependence on concentration and the square root of the height of the reservoir. The half-wave anodic potential in 2 M carbonate and 1 M potassium-sodium tartrate is -0.162 V, of the cathodic -0.164 V (E.H.) and is almost the same as that obtained with pure

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Card 2/8

Card 3/8

NOUAK J.J.

Distr: 4E2c

✓ Rapid analytical methods for metals and minerals. V.
Polarographic determination of copper and bismuth in
minerals and in iron. J. Doležal and J. Novák. Collec-
tion Czechoslov. Chem. Commun. 24, 81-83 (1959) (in Ger-
man).--See C.A. 52, 19992b. M. Hudlický

7 5
2 May
1
Chromatographic semimicroanalysis of gases. XIV.
Direct determination of individual gaseous paraffins and ole-
fins in 1,3-butadiene. J. Janák and J. Novák. Collection
Czechoslov. Chem. Commun. 24, 384-86 (1969) (in German).
—See C.A. 52, 1880d. XV. Automation of the measur-
ing unit of a gas chromatograph. J. Janák and K. Tesářík.
Ibid. 530-44 (in German). —See C.A. 52, 2052b.
L. J. Urbánek /

Distr: 4E2c(j)

GW

4

gg

COUNTRY	: Czechoslovakia	5-17
CATEGORY	:	
ANO. JOUR.	: RZKhim., No. 5 1960, No.	14797
AUTHOR	: Dolezal, J. and Novak, J.	
INSTR.	: Not given	
TITLE	: On the Polarographic Behavior of Cerium(III) and Cerium(IV)	
ORIG. PUB.	: Collection Czechoslov Chem Commun., 24, No 7, 215-2190 (1959)	
ABSTRACT	: See RZKhim, 1960, No 5, 14797.	

CARD: 1/1

56

Pl 05b

Z/008/60/054/011/004/005
E112/E453

5.5600 (1273, 1282 only)

AUTHORS: Novák, Josef, Rusek, Miroslav and Janák, Jaroslav

TITLE: Apparatus Using Flame-Ionization Detection

PERIODICAL: Chemické listy, 1960, Vol. 54 No. 11, pp. 1173-1182 + 1 plate

TEXT: Factors controlling the design of a Czechoslovak high-temperature gas chromatography apparatus using a flame ionization detector are discussed and operating data are given. A diagrammatic lay-out of the apparatus and of the electrical circuit in the detector are shown. A photograph of the complete and mass-produced instrument is included. Its design follows conventional lines. The apparatus is housed in a thermostat suitable for a temperature range up to 350°C and capable of employing four columns, each of them U-shaped and approximately 850 mm in length. Thermostating is achieved by hot air which is made to circulate by means of a fan. X
The design of the flame ionization detector differs from that introduced originally to gas chromatography by I.G. McWilliam (Gas Chromatography, ed. D.H. Desty, Butterworth Scientific Publications, London, 1958, p. 142). In the McWilliam model the issuing gas is being burnt at a jet made from a hypodermic needle which, at the same time, serves as the positive pole for
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Z/008/60/054/011/004/005

E112/E453

Apparatus Using Flame-Ionization Detection

the flame conductance measurements. The negative pole consists of a piece of 30 mesh brass gauze about 1 cm above the needle. In the Czechoslovak design the jet is a steel capillary of 0.5 mm bore above which are placed two platinum wire electrodes on top of each other and perpendicular to the axis of the flame. In series with the electrodes is a battery of 120 to 200 V and a resistor, across which a recorder is connected. The following operating data were investigated. a) Time factor for the establishing and maintenance of constant temperature parameters. b) Maintenance of constant pressure conditions at varying flow rates of carrier gases. After the introduction of mercury manostats, the deviations of pressure at flow rate changes of 100% amounted to no more than 1.5%. c) Effect of voltage on signal sensitivity at constant weight of chromatographed compounds. Results are summarized in a table indicating voltages required for complete ionization at different flow rates and varying distances of electrodes. d) Effect of variations of N_2 and H_2 flow on signal sensitivity and stability of base line. Sensitivity is more affected by change in N_2 flow rate than that of H_2 .

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The effect of N_2 -flow on other hand on the stability of the base line is negligible while that of H_2 is considerable

e) Effect of electrode distance and of their shape. Sensitivity decreases as the distance between the electrodes increases and a linear relationship is shown to exist. Position and shape of upper electrode is not of great importance but detector can function properly only on condition that the lower electrode is placed within the ionized space. The optimum distance of the lower electrode from the tip of the jet is determined by the maximum concentrations of the eluted fractions passing through the detector. Flame profiles and temperature contours are studied in this connection. Ionization gradients leading to inversions of chromatograms and measures for their elimination are discussed. Inversions are more likely to occur at low flow-rates

f) The performance of the instrument as a tool of analytical chemistry is discussed and results of analyses of different mixtures are given. A special study is devoted to partition chromatography homologues. It is considered that the concentration of ions per mole in a series of homologous

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E112/E453

Apparatus Using Flame-Ionization Detection

hydrocarbons increases in proportion to the number of carbon atoms in the molecule. The conductivity of the flame is explained by the formation of carbon ions which are considered a transitory stage before the combustion of the hydrocarbons to carbon dioxide. In compounds, therefore, in which the carbon atoms may already be in an oxidation stage, a transition to carbon ions is not possible and these compounds will show characteristics associated with compounds having a lower number of carbon atoms e.g. acetone will behave like a compound containing only two carbon atoms. Compounds which do not contain carbon will show similar characteristics. The method has been found also very suitable for the analyses of biological mixtures and for medicinal work (acetone assay in diabetic urine etc). Other examples include results of analyses of coal tar constituents. Column packings, temperatures and other details are tabulated for each particular type of analyses. Illustrations that are included show the general arrangement of apparatus, a schematic diagram of the electrical circuit of the detector and a photograph of the complete instrument. There are

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Z/008/60/054/011/004/005
E112/E453

Apparatus Using Flame-Ionization Detection

13 figures, 7 tables and 15 references. 7 Czech and 8 English.

ASSOCIATION: Laborator pro analysu plynu ČSAV Brno
(Laboratory for Gas Analysis Czechoslovak Academy
of Sciences Brno)

SUBMITTED: March 5, 1960

Card 5/5

NOVAK, Josef

"Simple Preparation of Definite Gaseous Mixtures for Calibration in Gas-Chromatographic Analysis of Trace Amounts of Compounds, Chemické Listy, No. 11, Nov 60, Prague, p. 1189.
Affiliation: Lab for Gas Analysis, CSAV, Prague.

NOVAK, J.; FRIED, V.; PICK, J.

Solubleness of carbon dioxide in water under various pressures and temperatures. Coll Cz Chem 26 no.9:2266-2270 '61.

1. Institut fur physikalische Chemie, Technische Hochschule fur Chemie, Prag.

(Carbon dioxide)

NOVAK, J.

Determination of small amounts (up to $0,1 \text{ g/m}^3$) aromatic hydrocarbons in the lighting gas and carbonization gases. Paliva 41 no.3:84-87 Mr '61.

1. Ceskoslovenska akademie ved, laborator pro analyzu plynu, Brno.

hh862

S/081/62/000/024/022/073
B117/B186

AUTHOR: Novák, J.

TITLE: Smoothing of pressure oscillations in the carrier gas in gas chromatography

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 152,
abstract 24B1039 (Collect. Czechosl. Chem. Commun.,
v. 27, no. 2, 1962, 411-423 [Ger.; summary in Russ.])

TEXT: To stabilize the carrier gas pressure in gas chromatography either buffer capacity or pneumatic resistors such as capillaries have hitherto been used. It was shown theoretically that neither of these gave satisfactory results and that a combination of capacity and pneumatic resistors was necessary. Based on the similarity between pneumatic and electric systems and on determining the smoothing factor as the ratio of the relative pressure oscillation at the outlet and the relative pressure oscillation at the inlet, the theory of smoothing devices for pressure oscillations was considered. For this purpose a simple device in the form of a pneumatic three-stage resistor was suggested. The dependence of the

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S/061/62/000/024/022/073
B117/B186

Smoothing of pressure...

pressure oscillation amplitude at the outlet on the oscillation frequency and amplitude at the inlet was studied in order to compare this device with a simple capillary. An example of a chromatogram of an illuminating-gas mixture showed that with the device suggested an ideal smoothing of the pressure oscillations, i. e., a smooth zero line can be obtained on the chromatogram. [Abstracter's note: Complete translation.]

Card 2/2

JANAK, J.; NOVAK, J.; SULOVSKY, J.

Separation of substituted malonic acid ester by gas-liquid chromatography and a new method of its identification. Coll Cz Chem 27 no.11:2541-2549 N '62.

1. Laboratorium fur Gasanalyse, Tschechoslowakische Akademie der Wissenschaften, Brno und Farmakon, Olomouc.

2

JANÁK, J; NOVÁK, J; ZÖLLNER, G.

Czechoslovakia

Laboratory for Gas Analysis, Czechoslovak Academy
of Sciences -- Brno - (for all-Zöllner presently in
Budapest, Hungary)

Prague, Collection of Czechoslovak Chemical Communi-
cations, No 11, 1962, pp 2628-2636

"Separation of Ethylamine in Presence of Ammoniac
and Water through Gas-Fluidity-Chromatography."

NOVAK, Josef; AREND, Hanus

Determination of titanium in the presence of a small quantity of iron in barium titanate. Silikaty 7 no.2:150-154 '63.

1. Fyzikalni ustav, Ceskoslovenska akademie ved, Praha.

NOVAK, Josef

Analysis of the momentum, heat and mass transfer in turbulent flow systems with small transversal motion. Jaderna energie 9 no.8:265 Ag '63.

1. Statni vyzkumny ustav tepelne techniky, Praha.

NOVAK, Josef; JANAK, Jaroslav

Operational properties of the prototype of high-temperature
gas chromatograph Chrom II. Chem listy 57 no.4:371-389
Ap '63.

1. Laborator pro analyzu plynu, Ceskoslovenska akademie ved,
Brno.

ACCESSION NR: AP4016123

Z/0012/64/000/001/0059/0062

AUTHOR: Novak, Josef; Arend, Hanus

TITLE: Determination of fluorine in aluminum oxide, by means of melting and decomposition of the sample in a mixture of sodium carbonate, silicon and titanium oxides

SOURCE: Silikaty, no. 1, 1964, 59-62

TOPIC TAGS: fluorine colorimetry, aluminum nitride analysis, corundum analysis, fluorine determination, sodium carbonate, silicon, titanium oxide

ABSTRACT: A new method of colorimetric determination of fluorine is based on the decolorization of complexes of zirconyl ions with xylenol orange due to the presence of fluorine. It is suitable for the determination of F in single crystals of synthetic corundum, and in aluminum nitride. It is fast, accurate and well reproducible. The sample is melted in a Pt crucible with sodium carbonate, Ti and Si dioxides, digested with water, and the water solution filtered and added to the mixture of zirconyl nitrate and xylenol orange. Loss of color after 24 hours is compared to a set of standard colors. Orig. art. has 2 tables.

ASSOCIATION: Fysikalni ustav CSAV (Institute of Physics,
Czechoslovak Academy of Sciences), Prague

Card 1/1 Submitted: 8 Jul 63

NOVAK, *Josef*

Economic importance of the vaporization loss reduction.
Ropa a uhlie 6 no. 4: 120-123 Ap '64.

1. Ministry of Chemical Industry, Prague.

ACCESSION NR: AP4033425

Z/0055/64/014/004/0247/0255

AUTHOR: Sicha, M.; Vesely, V.; Novak, J.; Pekarek, L.

TITLE: Determination of the relaxation time of the electron temperature in the positive column of the electric discharge

SOURCE: Czechoslovatskiy fizicheskiy zhurnal, v. 14, no. 4, 1964, 247-255

TOPIC TAGS: relaxation time, electron temperature, electric discharge, electron density, positive column

ABSTRACT: A method of measuring the relaxation time of the temperature of electrons in the positive column of an electric discharge is described. The method uses measurements of the phase shift between the course of the electron temperature and that of the concentration of electrons in artificially excited moving striations of small amplitude. These data and the values measured for the electric field and temperature of the electrons in a homogeneous column are used to calculate the relaxation time of the electron temperature on the assumption that the diffusion of the electron temperature has no substantial influence on the time. The authors conclude that their results indicate that theoretical

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ACCESSION NR: AP4035425

mastery of the layer phenomena in the positive column plasma has already opened new possibilities in plasma diagnostics. Orig. art. has: 10 formulas and 3 tables.

ASSOCIATION: Lehrstuhl für Elektronik und Vakuumphysik der Karlsuniversitaet, Prague (Chair of Electronics and Vacuum Physics, Charles University); Physikalisches Institut der Tschechosl. A.d.W., Prague (Physics Institute, Czech. Academy of Sciences)

SUBMITTED: 06Nov63

DATE ACQ: 01May64

ENCL: 00

SUB CODE: GP

NO REF SOV: 002

OTHER: 011

Card 2/2

L 61536-65 EWT(m)/EPF(n)-2/T/EPA(bb)-2 Pu-4

ACCESSION NR: AP5019184

CZ/0038/64/010/011/0407/0407

AUTHOR: Novak, Josef

TITLE: Dimensionless analysis and conditions of similarity of the temperature field in the hot piping and armatures of the primary cycle of the A-1 nuclear power plant in case of a dangerous temperature drop

SOURCE: Jaderna energie, v. 10, no. 11, 1964, 407

TOPIC TAGS: nuclear power plant, nuclear power technology, temperature characteristic/ A-1 nuclear power plant

Abstract: /author's English summary, modified/ Starting from the dimensionless solution of differential equations, the author specifies the conditions of simulating the temperature field in the hot piping and armatures of the primary cycle of the A-1 nuclear power plant. Five modifications of the piping and armatures are examined. From the conditions of simulation, directions are derived for designing suitable experimental models, and instructions are given on how to test these models. Brief data are given also on the assembly for testing the models. SVUT Report 61-08006/1961.

L 61536-65

ACCESSION NR: AP5019184

ASSOCIATION: Statni vyzkumny ustav tepelne techniky, Prague (State Research
Institute of Heat Engineering)

SUBMITTED: 00

ENCL: 00

SUB CODE: NP, TD

NR REF NOV: 000

OTHER: 000

JPRS

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Card 2/2

L 62734-65 EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5021409

CZ/0034/64/000/012/0884/0886 21

AUTHOR: Novak, Josef; Panek, Zdenek 5 5

17
B

TITLE: Contribution to the determination of lead in copper alloys

SOURCE: Hutnicke listy, ¹⁹⁻no. 12, 1964, 884-886 27, 55

TOPIC TAGS: polarographic analysis, lead, electrolyte, copper alloy

Abstract: The article describes an improvement in polarographic determination of lead by the use of a new electrolyte solution. This solution is composed of 0.5 - 3.5% KCN, 5 - 25% NaOH, 0 - 8% Chelaton I (III), 0 - 2% of hydrazine sulfate, 0.001 - 0.2% of gelatin, and 0 - 5% sodium sulfite. This electrolyte is suitable at much higher concentration of Mn than previously used solution. The amount of both Fe and Mn may be up to 5% without interfering with the analysis. 0.005 to 5% of Pb may be determined. The results

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L 62734-65

ACCESSION NR: AP5021409

are more reliable than the colorimetric or electrolytic methods mainly in low contents of Pb. Orig. art. has: 2 tables, 2 figures, 1 graph.

ASSOCIATION: Novak - Fysikalni ustav CSAV, Prague (Institute of Physics, CSAV);
Panek - Vyzkumny ustav CKD, Prague (Research Institute CKD)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, GC

NR REF SOV: 001

OTHER: 019

JPRS

Card 2/2

NOVAK, Josef

Purification of chloroform and carbon chloride used as
extraction agents in analytic chemistry. Chem listy
58 no.11:1338-1339 N '64.

1. Institute of Physics, Czechoslovak Academy of Sciences,
Prague.

L 31413-66

ACC NR: AP6022955

SOURCE CODE: CZ/0008/65/000/009/1021/1037

AUTHOR: Novak, Josef

ORG: Laboratory for Gas Analysis, CSAV, Brno (Laborator pro analyzu plynu CSAV)

TITLE: Quantitative analysis by means of gas chromatography / I. Some general relationships between the quantity of chromatographed compound and the size of the corresponding chromatographic curve

SOURCE: Chemické listy, no. 9, 1965, 1021-1037

TOPIC TAGS: gas chromatography, viscosity, heat conductivity, physical diffusion

ABSTRACT: The determination of the concentration of a substance which is calculated on the basis of an area limited by a chromatographical curve, is correct only when the properties of the vapors of the analyzed substance and of the carrier gas are additive, and the concentration of the substance in the gas is low. When the determination is based on properties that are a function of the dynamic properties of the substance (viscosity, thermal conductivity, diffusion) a correction factor should be used. This equals: $1 / (dS_1/dx_1)$, where $S_1 = \alpha_{10} - \alpha_0$; α_0 is the investigated property of the carrier gas, and α_{10} the corresponding property of the mixture; x_1 is the concentration of the analyzed substance in the carrier gas. The author thanks Engineer, Doctor of Sciences J. Janak, Engineer, Candidate of Sciences M. Krejca, and Graduate Chemist K. Tesarik for valuable remarks on the manuscript of this work. Orig. art. has: 63 formulas. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: none / ORIG REF: 005 / SOV REF: 001 / OTH REF: 042

Card 1/1 JT

L 42263-66

ACC NR: AP6031474

SOURCE CODE: CZ/0008/66/000/003/0345/0346

AUTHOR: Novak, Josef

ORG: Institute for Physics, CSAV, Prague (Fysikalni ustav CSAV)

TITLE: Elimination of traces of iron from chemicals by the use of 1,10-phenanthroline without reducing agents

SOURCE: Chemicke listy, no. 3, 1966, 345-346

TOPIC TAGS: buffer solution, chemical purity

ABSTRACT: A method for the elimination of Fe ions from a buffer solution is described. To 2000 ml of a buffer solution containing 25% of sodium acetate and 10% sodium citrate having pH limits of 4.0 - 5.5, 20 ml of a 1% solution of 1,10-phenanthroline and 2g of solid sodium perchlorate are added. The solution is irradiated for 1 hour by a 200W mercury lamp, and the solution is extracted by 50ml of chloroform; the extraction is repeated until the sample is colorless. Traces of chloroform are removed from the solution by filtration over a filter. [JPRS: 36,002]

SUB CODE: 07 / SUBM DATE: 07May65 / ORIG REF: 008 / SOV REF: 001
OTH REF: 009

Card 1/1 *llh*

6918 2751

L 42262-66 EWP(1) WW/JW/RM
ACC NR: AP6031478

SOURCE CODE: CZ/0008/66/000/003/0385/0430

AUTHOR: Novak, Josef P.

ORG: Department of Physical Chemistry, College of Chemical Technology, Prague
(Katedra fyzikalni chemie, Vysoka skola chemicko-technologicka)

TITLE: Calculation of thermodynamic properties of real gas systems

SOURCE: Chemicke listy, no. 3, 1966, 385-430

TOPIC TAGS: enthalpy, entropy, real gas

ABSTRACT: General expressions for the calculation of thermodynamic factors of gases and their mixtures are discussed. These functions were also related to conditions existing on the basis of the equilibrium conditions (such as those determined from Van der Waal's equation). Internal energy, enthalpy, entropy, free energy, free enthalpy, molar heats, and fugacity of gases are discussed. Thermodynamic factors in multicomponent systems are reviewed. Determination of partial molar values, and the state behavior of mixtures are described. The laws of Dalton, and Amagat, the rule of Bartlett, and that of Krichevsky are discussed. Comparison of various methods of calculation is presented. Orig. art. has: 2 formulas. [JPRS: 36,002]

SUB CODE: 20 / SUBM DATE: 26Oct64 / SOV REF: 001 / OTH REF: 047

Card 1/1

NOVAK, J.

FISCHER, V; NOVAK, J.

Experiences with undecylenic acid. Cesk. derm. 25 no.7-8:
273-278 July 1950. (CIML 20:1)

1. Of the First Dermato-Venereological Clinic in Prague (Head—
Prof. K. Gawalowski, M. D.).

NOVAK J.

NOVAK J.

Korani hladiny penicillinu v krvi. [Determination of penicillin in
blood/ Česk. dom. 25:4 1 apr 50 p. 147-50.

1. Of the First Skin Clinic in Prague (Head--K. Cawalowski, M.D.).

ČLČL 12, 5, Nov. 50

NOVAK, J.

Surgical sterilisation. Prakt. lek., Praha 32 no.3:57-61 5 Feb
1952. (CML 22:2)

1. Of the First Dermato-Venereological Clinic (Head--Prof.
Gawalowski, M. D.) in Prague.

NOVAK, J.

Treatment of infectious eczema. Cesk. dermat. 27 no.3-4:150-153
June 1952. (CLM 22:3)

1. Of the First Dermatological Clinic (Head--Prof. K. Gawalow-
ski, M. D.) of Charles University, Prague.

NOVAK, J.

GAWALOWSKI, K; NOVAK, J.; PROCHAZKA, K. "Indication of Penicillin Therapy in Dermatology." p. 194.
(Casopis Lekaru Ceskych. Vol. 93, no. 8, Feb. 1954. Praha).

SO: Monthly List of ^{East European} ~~Russian~~ ^{Vol. 3, No. 6} Accessions, /Library of Congress, June 195⁴, Uncl.